

WHAT IS CLAIMED IS:

1. A method of simulation the economics of airlines,
comprising the steps of:

providing processing means,

establishing an agent-based air carrier service
evolution model (ACSEM) and processing said ACSEM on said
processing means through the steps of:

(a) entering information concerning bankrupt
airlines, newly created airports, and financial conditions
at each airline;

(b) individually setting and modifying at
least one of the following parameters according to a
desired profit for each airline:

fares per airline and per origin-
destination;

aircraft size per airline, per
aircraft;

scheduled departure per airline, per
aircraft, per departure;

fraction of seats reserved for

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passengers and business passengers;

(h) cyclically simulating a day's traffic at predetermined time intervals for each of said airlines and each of said aircraft, comprising the steps of:

requesting what is the state of the aircraft,

exercising a simulated action in accordance with the state of the aircraft, and

repeating said steps of the simulating a day's traffic, each predetermined period of time; and

(i) repeating the steps a-h in sequence to maximize profit of the airline.

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before the step (a), entering in said processing means information concerning current airline structure.

3. The method of Claim 1, wherein in the step (a), said information concerning newly created airports includes place and date of establishing the new airports.

4. The method of Claim 1, wherein in the step (a),
said information concerning newly created airports includes
anticipation parameters.

8. The method of Claim 1, wherein in the step (f), the information concerning passenger demand is generated by said processing means in accordance with a predetermined statistical model.

9. The method of Claim 1, wherein in said step (h), said states of the aircraft include:

boarding;
request take-off;
take-off;
enroute;
request landing;
landing; and
idle.

10. The method of Claim 9, wherein said step of requesting the state of the aircraft is repeated each minute.

11. The method of Claim 9, wherein in the state "boarding", the simulated action includes boarding of passengers with tickets of this flight.

12. The method of Claim 9, wherein in the state "request take-off", the simulated action includes granting take-off depending on capacity of the airport and demand.

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13. The method of Claim 9, wherein in the state "take-off", the simulated action includes paying take-off fee.

14. The method of Claim 9, wherein in the state "enroute", the simulated action includes paying enroute fee, based on fuel consumption and reflecting area congestion.

15. The method of Claim 9, wherein in the state "landing", the simulated action includes disembarking passengers and collecting fares with discount to penalize late arrival.